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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,683	09/05/2003	Tsili Wang	414-28483-US	8558

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EXAMINER

AURORA, REENA

ART UNIT PAPER NUMBER

2862

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/656,683

Applicant(s)

WANG ET AL.

Examiner

Reena Aurora

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 - 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 26 is/are rejected.
- 7) ☒ Claim(s) 1, 5 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/8/04</u>  | 6) <input type="checkbox"/> Other: ____                                     |

## **DETAILED ACTION**

### ***Specification***

The abstract of the disclosure is objected to because of the undue length, the abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

Claims 1 are objected to because of the following informalities:

As to claim 1, line 11, the phrase "the grooves" lacks antecedent basis. At line 17, the phrase "the antenna wire" lacks antecedent basis. At line 13, is a receiver coil antenna same as a coil antenna placed near the external surface of the tool body.

As to claim 5, it is unclear what is meant by the phrase "the groocegroovemeasurement".

As to claim 10, line 3, delete the word "ot" and insert "to" in its place.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1 - 26 are rejected under 35 U.S.C. 102(a) as being anticipated by Thompson et al. (6,577,129).

As to claims 1 and 19, Thompson et al. (hereinafter Thompson) discloses a well logging system including a downhole resistivity tool (10, fig. 1) for traversing a well bore (18) measuring a property of interest in a formation adjacent to the well bore, the down hole tool (10) having a body with a longitudinal axis substantially aligned with a longitudinal axis of the well bore (18), the body having an external surface; a coil antenna (68, fig. 2) placed near the external surface of the tool body; a groove cut (60) in the external surface tool body (10) and oriented horizontally with respect to the longitudinal axis of the tool body; a transmitter (T1 – T8) comprising a transverse coil placed in the grooves for transmission or reception of a transverse magnetic field; and a receiver coil antenna (R1 – R4) near the external surface of the tool body for reception of a magnetic field which is oriented substantially orthogonal with respect to the transmitter; and grooves cut (60) in the external surface of the tool body and oriented substantially perpendicularly with respect to the antenna wire (68).

As to claims 2 and 20, Thompson discloses a gap between the transverse coil and a bottom of each groove in the plurality of grooves; and a ferrite material (66, fig. 3a) placed in the gap.

As to claims 9, 18 and 10, it includes all the limitations of claims 1 and 2, therefore claims 9, 18 and 10 are rejected on the same grounds as of claims 1 and 2.

As to claims 3, 4, 11, 12 and 21 - 22, Thompson discloses a plurality of receivers (R1 – R4); and a plurality of transmitters (T1 – T8).

As to claims 5 and 26, Thompson discloses a plurality of grooves (60, fig. 3a).

As to claim 6, Thompson discloses a gap between the coil (68) and the bottom of each groove (60) under both transmitter and receiver coils; and a ferrite material (66) placed in the gap.

As to claims 7, 8, 16, 17 and 24 - 25, Thompson discloses a flat shape at a bottom of the groove (60) (fig. 2).

As to claims 13 - 15 and 23, Thompson discloses processing the magnetic field data downhole from a plurality of receivers (R1 – R4); and processing the magnetic field data downhole from a plurality of transmitters (T1 – T8); and processing (25) the magnetic field data downhole from a plurality of frequencies (col. 5, line 65 – col. 6, line 20).

### ***Prior Art of Record***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kleinberg et al. (4,766,384) is cited for its disclosure of a well logging apparatus for determining dip, azimuth and invaded zone conductivity.

Towle (5,138,263) is cited for its disclosure of a electromagnetic formation evaluation tool.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reena Aurora whose telephone number is 571-272-2263. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, E. Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Reena Aurora